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COPOLYMER HAVING REVERSIBLE HYDROPHILICITY-HYDROPHOBICITY TRANSITION AND ITS PRODUCTION

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Abstract

PROBLEM TO BE SOLVED: To obtain the subject copolymer whose aqueous solution can be gelled at a predetermined temperature keeping the initial shape and which is shrinkable by dehydration and so useful as a thermosensitive polymer material by copolymerizing a specified unsaturated amide with a reactive surfactant.
SOLUTION: This copolymer is obtained by in-micelle polymerization of a aqueous solution including (A) constituent units derived from at least one monomer of N-n-propyl acrylamide, N-isopropyl acrylamide or N-N-diethyl acrylamide and (B) at least one kind of reactive surfactant of formula I (R is a higher alkyl; R' is H or methyl; X is an alkylene; M is an alkali metal or ammonium; n is 2-20), formula II or formula III in the presence of a radical polymerization initiator at a temperature upper than the hydrophilicity- hydrophobicity transition temperature till obtaining 1,000,000-10,000,000 weight- average molecular weight. The concentration of the B component is 0.001-10 mol% based on total monomers.